IN THE CLAIMS:

Claims 8-12 were previously cancelled. Claims 1, 2, and 4 have been amended herein. Claims 15 and 16 have been added. All the pending claims are presented below. This listing of claims will replace all prior versions and listings of claims in the application. Please enter these claims as amended.

Listing of the Claims:

1. (Currently amended) A method to isolate at least one specific interaction partner of a compound, characterized in that said compound comprises:

- a functional group that can be chemically, or enzymatically, or chemically and enzymatically altered such that an altered compound-interaction partner complex elutes at a different elution time with respect to the elution time of the same non-altered compound-interaction partner complex in the same chromatographic separation;

- a chemical structure determining the specific interaction between said compound and its interaction partner; and

- a chemically reactive group which reacts with a functionality present in the interaction partner,

said method comprising the following steps:

(a) adding said compound to a complex mixture ~~of molecules~~ comprising proteins and/or peptides, wherein said compound stably interacts with at least one of said ~~molecules~~ proteins and/or peptides, which is a specific interaction partner, thereby forming a compound-interaction partner complex, and wherein said compound does not interact with the majority of said ~~molecules~~ proteins and/or peptides;

(b) separating the resulting complex mixture of ~~molecules~~ proteins and/or peptides and compound-interaction partner complexes into multiple fractions in a first chromatographic step wherein in a fraction derived from said chromatographic step both ~~molecules~~ proteins and/or peptides and compound-interaction partner complexes are present,

(c) chemically, or enzymatically, or chemically and enzymatically altering in each fraction said compound present in at least one compound-interaction partner complex, and

(d) isolating at least one interaction partner that interacts with said compound in a second

chromatographic step, wherein the chromatography of steps (b) and (d) is performed with the same or substantially similar type of chromatography.

2. (Currently amended) The method according to claim 1 wherein said complex mixture of ~~molecules~~ proteins and/or peptides is a complex mixture of proteins.

3. (Previously presented) The method according to claim 2 further comprising the cleavage of said complex mixture of proteins into a protein peptide mixture before performing step (b).

4. (Currently amended) The method according to claim 1 wherein said complex mixture of ~~molecules~~ proteins and/or peptides is a protein peptide mixture.

5. (Previously presented) The method according to claim 1, further comprising the step of identifying the at least one interaction partner.

6. (Previously presented) The method according to claim 5, wherein said at least one interaction partner is at least one protein or peptide and wherein said identifying step is performed by a mass spectrometric approach, in combination with peptide and protein sequence database searching.

7. (Previously presented) The method according to claim 6, wherein the identifying step is further based on the mass of the altered compound.

8.-12. (Cancelled).

13. (Previously presented) The method according to claim 1, wherein the compound is a drug, a drug in development, a drug lead, a drug analogue, or a drug derivative.

14. (Previously presented) The method according to claim 1, wherein the multiple fractions of the primary chromatographic separation obtained in step (b) are pooled to combine a plurality of said fractions having distinct elution times into a plurality of pooled fractions, prior to the second chromatographic step.

15. (New) A method of isolating at least one specific interaction partner of a compound out of a complex mixture, the method comprising:

adding the compound to a plurality of peptides, wherein the compound stably interacts with at least one peptide of said plurality, thereby forming a compound-interaction partner complex, and wherein the compound does not interact with a majority of the plurality of peptides;

separating the resulting plurality of peptides and compound-interaction partner complexes into multiple fractions in a first chromatographic step, wherein in a fraction derived from the first chromatographic step, both peptides and compound-interaction partner complexes are present;

chemically and/or enzymatically altering in a fraction derived from the chromatographic step the compound present in at least one compound-interaction partner complex such that the altered compound-interaction partner complex elutes at a different elution time than the same non-altered compound-interaction partner complex in the same chromatographic separation; and

isolating at least one interaction partner that interacts with the compound in a second chromatographic step, wherein the first and second chromatographic steps are performed with the same or substantially similar type of chromatography.

16. (New) A method for isolating at least one specific interaction partner of a compound from a complex mixture, the method comprising:

adding the compound to a complex mixture of molecules, wherein the compound stably and specifically interacts with at least one of the molecules, thereby forming a compound-interaction partner complex;

separating the resulting complex mixture of molecules and compound-interaction partner complexes into multiple fractions in a first chromatographic step, wherein in a fraction derived from the first chromatographic step, both molecules and compound-interaction partner complexes are present;

chemically and/or enzymatically altering in a fraction from the first chromatographic step the compound present in at least one compound-interaction partner complex such that the altered compound-interaction partner complex elutes at a different elution time than the same non-altered compound-interaction partner complex in the same chromatographic separation; and

isolating at least one interaction partner that interacts with the compound in a second chromatographic step, wherein the first and second chromatographic steps are performed with the same or substantially similar type of chromatography.